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Marine Casualty Investigations

Enquêtes sur les accidents maritimes

Investigation Report to the Minister pursuant to sections 542 or 545 of the Canada Shipping Act

Rapport d'investigation au Ministre conformément aux articles 542 ou 545 de la Loi sur la marine marchande du Canada

Canada

Ce rapport est aussi disponible en français

REPORT OF INVESTIGATION INTO THE CIRCUMSTANCES ATTENDING THE GROUNDING AND SUBSEQUENT HULL DAMAGE OF THE LIBERIAN TANKER "FILIA STAR" AT RED ISLAND SHOAL, PLACENTIA BAY, NEWFOUNDLAND, MARCH 14, 1988.

REPORT No. 523

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REPORT OF INVESTIGATION INTO THE CIRCUMSTANCES ATTENDING THE GROUNDING AND SUBSEQUENT HULL DAMAGE OF THE LIBERIAN TANKER "FILIA STAR" AT RED ISLAND SHOAL, PLACENTIA BAY, NEWFOUNDLAND, MARCH 14, 1988.

Particulars of Vessel

Name	"FILIA STAR"
Official Number	5773
Port of Registry	Monrovia
Flag	Liberia
Call Sign	6ZAW
Gross Tonnage	18,583
Net Tonnage	13,262
Length	179.59 m
Breadth	28.40 m
Depth	15.00 m
Draught (at time of casualty)	F: 3.96 m A: 7.46 m
Type	Tanker
Built	1973, Japan
Propulsion	One diesel engine, Sulzer 7 RND 76, 14000 BHP Service Speed - 15.3 knots
Crew	27
Classification	American Bureau of Shipping
Owners	Spartus Maritime Inc. Monrovia, Liberia
Agents	I.H. Mathers & Son South Halifax, N.S.
Managers/Operators	Fairsky Shipping & Trading S.A. - Athens, Greece

Charterers	Exxon
Certification	Cargo Ship Safety Equipment Certificate issued at Paramus, N.J., on August 2, 1986, to expire July 23, 1988
	Cargo Ship Safety Construction Certificate issued at Paramus, N.J., on September 29, 1987, to expire July 31, 1992
	Cargo Ship Safety Radio Certificate issued at Paramus N.J., on May 5, 1987, to expire June 30, 1991
	Loadline Certificate issued at Paramus, N.J., on October 1, 1987, to expire July 31, 1992
	Non-Canadian Compliance Certificate issued at Hamburg, Germany, on July 6, 1987, to expire July 6, 1989

Navigating Equipment

Radar 1	JRC JMA-158F
Radar 2	JRC JMA-158F
Direction Finder	Koden
Loran C	Simrad LC123
Loran A	JRC NCD 310/JNA-106
Echo Sounder	Marine Graph, Kaijo Denki Ltd.
Radar Raytheon (ARPA)	Raycas V Auto Plotting Aid
Gyro & Auto Pilot	Gylot
Gyro Compass Course Recorder	Toyko Keiki
Main W/T Transmitter	JRC
Main W/T Receiver	JRC

Emergency W/R Transmitter	JRC
Emergency W/T Receiver	Terasaki
VHF (1)	Raytheon Ray-88
VHF (2)	JRC NCE-1226B
VHF (3)	Ray Jefferson 5555

Note: All times in this report are expressed in Newfoundland Standard time (UTC minus 3½ hours).

Background

The "FILIA STAR" is a typical medium-size tanker with eleven cargo tanks, superstructure and engine-room located aft. She has a single fixed pitch propeller.

On March 11, 1988, the "FILIA STAR" departed Boston, U.S.A., destination was to be forwarded later to the vessel from the owners. As the vessel cleared the harbour, orders were received aboard to proceed to Come By Chance, Newfoundland, Canada, to load fuel oil. At the time of receiving the vessel's new destination, there was only one U.S.A. small-scale chart for the Island of Newfoundland on board.

On the morning of March 14, 1988, the "FILIA STAR" entered Placentia traffic VTS Zone and started reporting her position via the VHF radio. However, some language difficulty was encountered. During that time VTS discovered that the vessel did not carry the required charts and arrangements had been made through her agents to deliver the charts by launch. While awaiting delivery of the charts, and under VTS radar surveillance, the "FILIA STAR" ran aground on the north side of Red Island Shoal at 1525 on March 14, 1988. Within minutes she was refloated under her own power, turned around after picking up her charts, and proceeded to Halifax for repairs. The ship did not report the casualty to the various agencies until the following day. There was no pollution reported as a result of the grounding. Repairs were carried out at a Halifax shipyard at an estimated cost of about $400,000.

Narrative

The Liberian tanker "FILIA STAR" departed Boston, U.S.A., at 2054 on March 11, 1988, after discharge of her

cargo was completed. A destination was not given to the master at that time. Shortly after the pilot disembarked, verbal instructions were received from the Boston agent by radio, at 2142, to proceed to Come By Chance, Newfoundland, Canada, on voyage charter to load 36,000 t of fuel oil. A cable message from the owners and the Boston agent, confirming the destination, was received aboard the vessel the following day with a reminder to comply with the reporting procedures for Eastern Canada Traffic Zone (ECAREG).

At the time of receiving the new destination and until her arrival at Placentia Bay, Newfoundland, there was only one small scale chart for Newfoundland, which covered the whole of the Island on board the "FILIA STAR".

On March 12, the "FILIA STAR" reported to ECAREG, amongst other matters, that there were "no deficiencies of charts and publication". Through her Newfoundland agent the vessel requested pilotage service on arrival, ETA 1600 March 14, 1988.

ECAREG Canada granted clearance to the vessel via Halifax, Coast Guard Radio and requested her to report on arrival in Come By Chance, Newfoundland.

On March 12 the vessel received two cables from her Newfoundland agent which, in addition to other information, enquired if the necessary charts were aboard and advised the master of the location of the pilot station in Zone A in approximate position Lat. 47°43'N, 54°02'W. On March 12, the vessel ordered charts for delivery on arrival at Placentia Bay. Once the "FILIA STAR" entered Canadian waters, all messages were sent through Halifax Coast Guard Radio.

With the aid of radar and Loran C, the master and his officers safely navigated the "FILIA STAR" up to Placentia Bay, Newfoundland, following various courses drawn on USA charts No. 14006 (Cape Race to Cape Sable), No. 14024 (Island of Newfoundland) and No. 14000 (Cape Race to Cape Henry).

On March 14, 1988, at 1025 the "FILIA STAR" reported her position to VTS, on the VHF Radio, Channel 14, frequency 156.7 MHz, entering Sector 1, Placentia Zone Limit. She was on a course of 064° (T), steering 067° gyro. At 1315 the ship's course was altered to 039° (T&G) in approximate position Lat. 47°06'N, Long. 54°25'W. and shortly afterwards, at 1318, the vessel reported at calling in point (4A). The next reported position, at 1420, was at calling in point (5A) and the VHF Radio was switched to Channel 12, frequency 156.0 MHz. During radio communications between Placentia Traffic and the "FILIA STAR", some language difficulty was

experienced.

It was only on the vessel's arrival at Placentia Bay that VTS became aware that she did not have the necessary charts on board and that the charts had been ordered for delivery to her at the pilot boarding area.

In preparation for manoeuvreing, the main engine was rung to 'standby' at 1415, the fuel supply was changed over from heavy to diesel fuel, and the vessel's speed was reduced from about 12 to 10 knots. At 1500 speed was further reduced to 'slow ahead' followed by 'stop engine'. At that time the vessel was in a position some 2 miles south of Red Island Shoal Racon Buoy No. E2, drifting in a northerly direction, awaiting delivery of her charts.

Tidal predictions for Argentia on March 14, 1988 were:

- Low water at 1145, height 0.7 m
- High water at 1730, height 1.9 m

Having no large-scale chart of Placentia Bay aboard, it was mistakenly assumed that the Red Island Shoal Buoy was a fairway buoy at the pilot station and that it could be passed on either side. Allowance was made to maintain a distance of about 5 cables from the buoy. The copy of the Admiralty List of Radio Signals, Volume 6, 1986, Part II, aboard the "FILIA STAR" gave the position of the pilot station as 47°22'18"N, 54°05'36"W. It did not, however, give the position of the Zone A pilot station (47°43'N, 54°02'W) as sent by radio to the vessel by her Newfoundland Agent.

The Red Island Shoal light and whistle 'E2' buoy was in its advertised position. The buoy is located northeast of the pilot station at a distance of about 2 miles. It is a starboard hand buoy, red in colour, marked 'E2', red flashing light and fitted with a radar beacon 'RACON -.- (K)'. At 1508 the "FILIA STAR" was in a position one mile south of buoy 'E2' and appeared to be moving northward on the VTS radar.

The "WILLIAM GEORGE", with the charts on board, departed Argentia Harbour to rendezvous with the "FILIA STAR" off Placentia pilot station. At 1509 the "WILLIAM GEORGE" was in a position some two miles on the starboard quarter of the "FILIA STAR". Radio communication was established with the vessel on VHF Radio, Channel 12, and arrangements were made to deliver the charts on the port side.

The Placentia VTS called the "FILIA STAR" at 1514 suggesting that the vessel stop and not proceed further to

the north; this was acknowledged by the vessel. Within minutes the regulator advised the vessel to leave Red Island Shoal buoy on her starboard side and recommended that she turn around to starboard. The vessel indicated that she was awaiting the delivery of charts from the launch. Once the "FILIA STAR" and the Red Island Shoal buoy were on the same bearing and were close together, the Placentia traffic radar display, using the 12 mile range, lost its range resolution. As a result the echoes from the ship and the buoy blended into a single target on the radar display, and the range could only be measured to the single target.

The VTS regulator stressed to the vessel not to pass the buoy. By this time the "FILIA STAR" was some three cables east of the buoy. However, according to the master, his ship was about four to five cables from the buoy at all times. At that time the pilot boat was about two miles NW of the buoy and indicated to VTS that the "FILIA STAR" was close to the shoal and she should go astern or stop dead in the water.

At 1519 VTS repeated their advice to stop the vessel and not to go any further ahead as she was standing into danger. The vessel acknowledged. The pilot boat called VTS asking them to advise the ship to go astern or stop, again. VTS repeated the advice to the ship; also for the vessel to keep the buoy on the vessel's starboard side, to proceed astern and correct her course. The vessel acknowledged.

During that time the tanker "SOUTH ANGELA" was south-bound from Come By Chance with a pilot aboard who was concerned about the location of the pilot boat and the possibility that the "FILIA STAR" might be heading for the boat to embark her pilot. He requested the pilot boat to proceed to the west to avoid any misunderstanding with the "FILIA STAR".

The "FILIA STAR" also commenced a port (W'ly) turn and at 1522 VTS advised the vessel to keep swinging to the west, to alter to a W'ly course and to proceed to the west. The "FILIA STAR" acknowledged and her engine was put to 'dead slow ahead', then increased to 'slow ahead'. The Master ordered the helm 'hard to port' and steadied the ship on a heading of 270° (T&G). The second mate was standing by on the telegraph and the chief mate was occasionally monitoring the echo sounder. There was also a helmsman and a lookout in addition to the master who had the conduct of the vessel. At 1525 the "FILIA STAR" ran aground on the north side of Red Island Shoal in approximate position Lat. 47°24.1'N, Long 54°03.1'W. Immediately the engine was stopped, then put on 'slow astern' several times until 1527 at which time the vessel refloated. The crew commenced inspection of all

tanks. At 1533 the vessel received her charts from the "WILLIAM GEORGE" and proceeded northbound towards the traffic lane.

At 1535 the vessel developed a starboard list of about 4° due to damage to Nos. 2 and 3 port tanks. Prior to the grounding No. 2 port tank was empty and No. 3 water ballast tank was full. The loss of water ballast from No. 3 port tank was the cause of the sudden starboard list. This was corrected shortly afterwards by pumping water ballast out of No. 3 starboard water ballast tank.

At 1538 the master turned the vessel around to proceed outside of Placentia Bay to ascertain the damage to his vessel and upon completion of inspection, at 1615, no further leakage was found. The master contacted the owners at 1656 and received instructions to proceed to Halifax for repairs. Placentia Vessel Traffic Services were informed that the vessel had a change of destination; however, they were not informed of the grounding until the following day when this information was received from the vessel while requesting ECAREG clearance to enter Halifax Harbour and also through the ship's agent in Halifax.

The "FILIA STAR" arrived safely in Halifax on March 16 and on March 17 she was alongside a floating drydock in Halifax where divers plugged the holes in her bottom in preparation for dry-docking. On the afternoon of March 18, the vessel was lifted out of the water on the floating dock for permanent repairs.

Analysis

1. Entrance to Placentia Bay

Placentia Bay is a large bay on the south coast of Newfoundland, entered between Cape St. Mary's and Ferryland Head, about 49 miles to the west. The bay extends about 60 miles in a NNE direction and contains numerous islands, inlets, sounds, bays and harbours. The two largest islands are Merasheen Island and Long Island, with Red Island dividing the fairway into three channels. These islands are visible up to 25 miles on a fine day.

Between the east side of the bay and the east sides of Red Island and Long Island, the eastern channel is the widest and the least obstructed by shoals and commonly used by tankers bound for Come By Chance refinery. The nearest shoal, called Red Island Shoal, east of Red

Island is some four miles away and marked with a flashing red buoy No. E2, indicating the starboard (right) side of the channel and the location of danger.

2. Pilotage

Pilotage is compulsory in the northern waters of Placentia Bay, including Come By Chance. There are two Pilotage Zones, Zone A and Zone B.

Zone A is a compulsory pilotage zone consisting of all the navigable waters north of a line drawn from Tobin Point to the south tip of Butler Head. The pilot boarding station is in the vicinity of Coombes Rock, in position Lat. 47°42'18"N., Long. 54°03'18"W. The pilot was awaiting to embark the "FILIA STAR" in Zone A at the advertised position.

Zone B is a compulsory pilotage zone off Argentia for all vessels greater than 223 m in length. The southern limit of Zone B is a line joining St. Croix Point, the south point of Merchant Island, Ragged Point and Eastern Head. The pilot boarding station is in position Lat. 47°22'18"N., Long. 54°05'36"W. The vessel ran aground in Zone B, which is a non-compulsory zone for vessels of her length (180 m).

The Admiralty List of Radio Signals Vol.6, 1986, Paragraph 2, Port Operations, Pilot Services and Traffic Management, and the Guide to Port Entry 1981-1982, on board the "FILIA STAR", advertised only one compulsory pilot station for Placentia Bay in the same position as in Zone B. However, the master was advised twice by radio by his Newfoundland agent of the position of the pilot station in Zone A. Had he plotted this position on the chart, the difference between the two positions would have become apparent.

3. Weather Conditions

The weather described on the day of the grounding was clear, daylight good visibility, light wind, calm sea with a moderate southerly swell, sea temperature +3°C. and the air temperature was +1°C. Low water at Argentia (nearest port to grounding) was at 1145 with a predicted height of 0.7 m and the tide continued to rise until high water which was at 1730, at a height of 1.9 m. While the "FILIA STAR" was stopped awaiting the charts in Placentia Bay, the flood tide drifted her slowly in a northerly direction into the bay. The rising tide assisted in quickly refloating the vessel.

4. Damage to Vessel

The overall damaged area was found on the port side of the following:

No. 1 Fuel Tank (Port):

- Plate No. C15, set up, between Frame No. 86-87.

No. 2 Fuel Oil Tank (Port Wing):

- Plate No. D12, set up and holed between Frame No. 80 and Frame No. 83, full width.
- Plate No. C13 set up between Frame No. 80 and Frame No. 83, outboard side.
- Plate No. E9 set up and holed between Frame No. 77 and Frame No. 79.
- Plate No. D11 set up and holed between Frame No. 77 and Frame No. 79.

No. 3 Ballast Watertank (Port Wing):

- Plate No. D10 set up and holed between Frame No. 74 and frame No. 76, inboard.
- Plate No. C11 set up between Frame No. 71 and Frame No. 73.
- Plate No. E7 set up between Frame No. 71 and Frame No. 73.

The Bilge Keel (Port):

- Section distorted in way of Plate No. E6, between Frame No. 69 to Frame No. 70.

Some internal distortion were found inside No. 1 fuel tank, No. 2 fuel oil tank and No. 3 ballast tank.

The estimated cost of repairs was approximately $400,000.

5. Charts and Publications

Prior to or at the time of entering Placentia Bay VTS Zone on March 14, 1988, neither ECAREG Canada nor VTS were aware that the "FILIA STAR" did not carry the appropriate charts for Placentia Bay and Come By Chance,

as required by the regulations. During radio communications between the vessel and VTS and the ship's agent it was discovered that the required charts were not on board. Arrangements had been made by her agent to deliver the charts by the launch "WILLIAM GEORGE" off Argentia. The agent notified the master of this arrangement.

On board the "FILIA STAR" there was US Chart No. 14024, "Island of Newfoundland", a small scale general chart for the whole island. There was no large-scale chart for Plancentia Bay or the surrounding area. However, via his agent, the master had requested pilotage service ETA March 14, 1988, at 1600 local time.

The Liberian tanker "FILIA STAR" did not carry the appropriate Canadian charts and publications as required by the Chart and Publications Regulations of the Canada Shipping Act, Part 1, Section 4, Carriage of Charts and Publications which states:

> 4. (1) Every ship shall have on board, in respect of each area to be navigated by the ship, at least the latest editions of the charts and the most recent issues of the publications that the ship is required by sections 5 and 6 to use.
>
> (2) When making a voyage described in Column 1 of an item of the schedule, every ship shall, in addition to the charts required by subsection (1), have on board.
>
> (a) the latest editions of the Canadian Hydrographic Service charts described in Column II of that item, or
>
> (b) the latest editions of the charts published by any national authority that.
>
> (i) cover the same area as,
>
> (ii) are at least as complete, accurate, intelligible and up-to-date as, and
>
> (iii) are at a scale that is at least 75 per cent of the scale of the latest editions of the charts described in Column II of that item.

The vessel had one general chart for the Island of

Newfoundland, No. 14024, scale 1:720,240 at Latitude 49°00'N. The chart, of Mercator projection, was published by the U.S. Defence Mapping Agency, as an OMEGA version, with a cautionary note: 'This chart is intended for offshore navigation only'.

There were no Sailing Direction Publications for Newfoundland on board, however other U.S.A. and Admiralty publications were aboard, such as: U.S.A. East Coast of North and South America including Greenland 1988 Tide Tables, U.S. List of Lights Publication 110 Atlantic 1987, Admiralty List of Radio Aids 86/87, Admiralty List of Radio Signals Volume 6, 1986 Port Operations Pilot Services and Traffic Management, Guide to Port Entry 1981-1982 port information.

It is acknowledged that these days it seems the regular practice is for a vessel on irregular voyages to only carry large scale charts and other publications for the most frequent ports, and to obtain charts and publications not on board for the other known destinations, through the local agents, prior to the vessel's departure. In this case the master, did not know his destination on departure, but he did order the required charts by radio from his agents some 36 hours prior to the vessel's arrival off Placentia Bay.

6. Eastern Canada Traffic Zone (Ecareg)

On March 12, 1988, the master received two messages from his agent advising him of ECAREG reporting requirements, pilot's ETA requirements and inquiring if he had Canadian charts or equivalent on board for Come by Change. If not, charts would be delivered by launch off Argentia. On March 12, 1988, the master sent a message to his agent requesting the following Canadian charts on arrival: LC4012, LC4013 and corresponding USA charts Nos. 14345, 14349, 14353, and 14354. The Canadian charts covered the area from Yarmouth to Halifax and Halifax to Sydney. The USA charts were for the southern Coast of Newfoundland including Cape St. Mary's to Argentia Harbour, Red Island to Pinchgut Point and Head of Placentia Bay.

On March 12, 1988, the master of the "FILIA STAR" contacted Ecareg Canada and reported the following:

- the master's name

- ETA Zone limit - March 12 at 2000 UTC

- destination - Come By Change, ETA March 14 at 1100, course 063°
- last port - Boston, U.S.A.
- ship's draft F. 3.9 m, A 7.3 m
- segregated clean ballast 7,260 MT and dirty ballast 6,100 MT
- no deficiencies of charts and publications
- no defects of navigational aids and ship's machinery
- no leakage of pollutants or damage
- name of ship's agent
- Non-Canadian Ship's Compliance Certificate expires on July 6, 1989

The Eastern Canada Traffic Zone Regulations made pursuant to the Canada Shipping Act govern traffic movements within the Eastern waters of Canada, however, they exclude the waters of Ungava Bay and the waters within the Vessel Traffic Services Zones for Halifax Harbour and Approaches, the Bay of Fundy and Approaches, Port aux Basques Harbour and Approaches, Placentia Bay and Approaches and St. John's Harbour and Approaches. The regulations apply to the following:

(a) every ship of 500 tons, gross tonnage, or more;

(b) every ship that is engaged in towing or pushing one or more vessels, where the combined tonnage of that ship and its tow amounts to 500 tons, gross tonnage or more; and

(c) every ship carrying a cargo comprised partially or entirely of a pollutant or dangerous goods or engaged in towing or pushing one or more vessels carrying a cargo comprised partially or entirely of a pollutant or dangerous goods as prescribed in the;

(i) Oil Pollution Prevention Regulations,
(ii) Pollutant Substances Regulations,
(iii) Dangerous Goods Shipping Regulations, or

(iv) International Maritime Dangerous Goods Code (IMCO).

The Eastern Canada Traffic Zone Regulations, Section 6, require a traffic clearance to be obtained and the requests for such clearances to be made by the master of a ship as follows:

> (a) before the ship enters the Eastern Canada Traffic Zone from seaward, except where it enters during a voyage between two ports both within the Zone, it shall obtain a traffic clearance and the request shall be made at least twenty-four hours prior to entering the Zone or, where the last port of call is less than twenty-four hours from the Zone, as soon as practicable;
>
> (b) before the ship departs from any berth, except where it is proceeding to another berth in the port, it shall obtain a traffic clearance and the request shall be made not more than two and not less than one hour before the ship is due to depart; and
>
> (c) before the ship proceeds after being stranded, stopped due to breakdown of the main propulsion machinery of steering gear or involved in a collision, it shall obtain a traffic clearance and the request shall be made as soon as the master ascertains the intended time of resumption of the voyage.

Subsection (4)(i) requires vessels reports.

> Deficiencies, if any, in respect of the requirements of the Charts and Publications Regulations.

On March 12, 1988, ECAREG Canada granted the "FILIA STAR" clearance to proceed to Come By Chance after receiving a declaration from the master that there were no deficiencies in her charts and publications, navigational equipment or machinery. The contrary was discovered by VTS on March 14, 1988.

Under the ECAREG Regulations it would appear that there was no requirement for the "FILIA STAR" to report to ECAREG Canada as long as she was steaming outside Canadian territorial waters (12-mile limit).

The VTS Placentia Bay Traffic Services Zone, which extends to the limit of Canadian territorial waters through the adjacent ECAREG Canada Zone, was, at the time of this casualty, a voluntary system. The vessel was thus not required to obtain a VTS clearance prior to entering Placentia Bay. When VTS Placentia Bay determined, after verification, that the vessel was deficient in her charts and that arrangements had been made to embark these charts within the Bay, a clearance was, however, obtained.

7. Placentia Bay Vessel Traffic Services

All the time of this inquiry the Canadian Coast Guard operated three voluntary vessel traffic service systems in Newfoundland, including Placentia Traffic, which apply to vessels 20 m or more in registered length. The objective of these systems is to enhance the safe and expeditious movement of marine traffic. There is no intention on the part of Canadian Coast Guard to attempt to navigate or manoeuvre ships from a shore station and nothing over-rides the authority of the master of his responsibility for the safe navigation of the ship. Information passed to the master is intended to assist him in the safe conduct of his ship.

Placentia VTS is manned 24 hours a day and provides a wide coverage of VHF radio communications on several channels. It also maintains radar surveillance on vessels moving within the zone.

On the day of the incident one regulator was on duty monitoring the radar, radio communications, telex messages and telephone calls. During the hour prior to the grounding of the "FILIA STAR" there were some 15 ships active in the zone.

The regulator monitored the "FILIA STAR" on the radar, which was set on the 12-mile range, while the vessel was awaiting the charts south of Red Island Shoal buoy. As she kept moving in a northerly direction, and came close to the buoy, the regulator lost the radar range resolution between the ship and the buoy making it difficult to ascertain the exact position of the vessel, relative to the buoy, at a range of over 7 miles. The principal factors that affect the range resolution of any radar are the length of the transmitted pulse, receiver gain, CRT spot size, and the range scale. In order to obtain the best degree of range resolution a short pulse, low receiver gain, and the shortest range scale possible are required. The pilot boat was in the vicinity and the

operator expressed concern about the position of the "FILIA STAR" volunteering advice to the VTS regulator. At that time the regulator took into consideration the advice of the pilot boat and, with the vessel already swinging to port, directed the "FILIA STAR" to proceed on a W'ly course. The vessel ran aground shortly afterwards.

The VTS National Manual of Operations, Section 6.6.2 'Radar Surveillance' states:

Radar surveillance of VTS zones shall be maintained at all radar-equipped regulating positions to ensure that:

1. traffic patterns are observed as they develop;

2. hazards to navigation are identified;

3. mariners are in compliance with the reporting practices and procedures of the VTS zone;

4. vessels standing into danger are alerted at the earliest possible moment and closequarters situations are avoided whenever possible;

5. ships using Traffic Separation Schemes are doing so in an effective manner.

Using the common R/T working frequency, VTS, the pilot of the outbound "SOUTH ANGELA", and the master of the pilot boat all expressed concern regarding the actions of the "FILIA STAR", which transmissions were available to the latter vessel.

8. Tanker Traffic Activity

From August 23, 1987, to April 28, 1988, a total of 50 tankers arrived at Come By Chance of which 39 were without the appropriate charts and had to be diverted to Argentia fairway buoy or off the Come By Chance pilot station to pick up charts. On the day of the "FILIA STAR" grounding there was no specific advice given to the vessel by the Traffic Centre as to where she would pick up the charts from the launch.

The master of the "FILIA STAR" was instructed by his agent that the charts would be delivered off Argentia and the agent passed this information to VTS.

The fishing vessel "WILLIAM GEORGE", with the charts on board, was advised by VTS to rendez-vous with the vessel

off the pilot station.

On March 18, 1988, more specific procedures were issued for ECAREG and VTS personnel by Ship Safety to assist them in dealing with tankers, noted to be deficient in charts, inbound for Come By Chance as follows:

> Your vessel is cleared to proceed to latitude 47 degrees 20 minutes North, longitude 54 degrees 03 minutes West, to embark the required charts. You are not to proceed North of latitude 47 degrees 20 minutes North without clearance from Placentia Traffic.

9. Reporting Requirements

The Shipping Casualties Reporting Regulations require that every master, any certificated officer, operator, member of the crew, pilot or person responsible for the ship involved in a shipping casualty, an accident or a dangerous occurrence shall report the incident by radio or telephone without delay to the local Canadian radio ship reporting station or to the Canadian Coast Guard Operations Centre of the Department of Transport in Ottawa. A Canadian radio ship reporting station is a Canadian Coast Guard radio station or a Canadian Vessel Traffic Service Centre of the Department of Transport, a Canadian marine radio station operated by the St. Lawrence Seaway Authority or a Canadian harbour radio station.

After the grounding the master did not report the casualty immediately and the only explanation given to VTS was that the vessel had a change of orders from the owners to proceed to Halifax. The pilot boat reported to VTS on VHF Radio, Channel 6, that the "FILIA STAR" had developed a list and might have struck the shoal while turning around. On March 15, 1988, the master and his agent reported the casualty.

10. Radio Communication with "FILIA STAR" and Pilot Boat (U.T.C. Times have been converted to local times)

10:24 "FILIA STAR" called Placentia Traffic advising they were abeam Bass Point and proceeding to Come By Chance at 13 knots.

10:27 Placentia Traffic inquired if all ship's machinery and navigational equipment were in good working order and received an affirmative reply. Placentia Traffic cleared 'FILIA STAR"

to enter Placentia Bay Traffic Zone. The VTS regulator requested the vessel's ETA for CIP 1-Alpha several times; the only reply was ETA pilot station 1500 local time.

10:34 Placentia Traffic requested "FILIA STAR" to advise chart numbers for Placentia Bay. "FILIA STAR" reported they were carrying U.S. Charts Nos. 14000 and 14006.

11:46 "FILIA STAR" informed Placentia Traffic their agent sending new charts for Placentia Bay area and would receive them off Argentia.

14:28 Vessel "WILLIAM GEORGE" had charts aboard and proceeding to pilot station to deliver them.

15:06 Pilot boat reported to Placentia Traffic that "FILIA STAR" very close to shoal. "FILIA STAR" still one mile south on VTS radar.

15:14 Placentia Traffic advised "FILIA STAR" to stop vessel, not to go north, and received reply that vessel was stopped.

15:16 Pilot boat advised Placentia Traffic that vessel was close to shoal and they should contact "FILIA STAR" to stop dead in water.

15:19 Placentia Traffic advised "FILIA STAR" to stop vessel as she was standing into danger, moments later to go astern and keep buoy on starboard side. Vessel acknowledged.

15:20 Pilot on "SOUTH ANGELA" speaking with pilot boat about "FILIA STAR" and that the "FILIA STAR" might be steering towards the pilot boat.

15:22 VTS advised "FILIA STAR" to keep turning to the west, alter to a westerly course. Vessel acknowledge.

15:29 VTS advised "FILIA STAR" that she was dangerously close to the shoal and to proceed on a westerly course. Vessel replied already on westerly course.

15:39 "WILLIAM GEORGE" reported charts aboard "FILIA STAR".

15:43 Placentia Traffic advised "FILIA STAR" that

tanker "SOUTH ANGELA" was southbound trying to raise him on Channel 12.

"SOUTH ANGELA" to "FILIA STAR" we pass port to port, red to red.

15:50 "SOUTH ANGELA" asks "FILIA STAR" not to cross her bow. Inquired of Placentia Traffic if they were monitoring that vessel.

16:00 "FILIA STAR" advised receiving orders from owner not to proceed to Come By Chance and that he was going out of Placentia Bay.

16:16 Pilot boat reported "FILIA STAR" went very close to shoal and probably struck it as she had a big list.

11. Fuel and Ballast

At the time the "FILIA STAR" arrived in Placentia Bay she was carrying some 6,260 M/T of clean ballast in the forepeak, No. 2 port and starboard wing tanks and No. 4 centre. Some 6,100 M/T of dirty ballast was also aboard in No. 4 port and starboard wing tanks.

The following amount of fuel was aboard the vessel in the fuel tanks aft:

Arriving in Placentia Bay:

Heavy Oil	170 t
Diesel Oil	47.9 t

Departing Placentia Bay:

Heavy Oil	169.3 t
Diesel Oil	45.7 t

Arriving Halifax March 16, 1988:

Heavy Oil	106.8 t
Diesel Oil	42.3 t

There was no evidence of pollution in Placentia Bay as a result of the "FILIA STAR" grounding.

12. Aids to Navigation

In 1983 the Canadian Coast Guard introduced a new buoyage system which was developed by the International

Association of Lighthouse Authorities and which has been adopted by all of the major maritime nations in the world. The shape and/or colour of the buoy and the colour and flash characteristic of the light in the buoy indicate its function. It is essential that mariners use up-to-date nautical charts with this system.

Red Island Shoal light and whistle buoy E2, Racon -.-(K) Newfoundland List of Lights No. 45.3 was in its advertised position Lat.47°23'48"N., Long.54°03'12"W. It has a red flashing light, is red in colour and marked "E2". As a starboard hand buoy, it marks the starboard (right) side of a channel or the location of a danger which must be kept on the vessel's starboard (right) side when proceeding in the upstream direction.

It would appear that neither the master nor the officer of the watch ascertained the type and colour of the buoy while waiting near it. The master was in charge of the navigation and he assumed that the buoy was a fairway buoy in spite of the VTS warning on the radio. There was also a chart showing the International Buoyage System attached to the bulkhead in the wheel-house of the "FILIA STAR".

13. Placentia Pilot Boat "APA 4"

The master of the pilot boat works on contract with the Atlantic Pilotage Authority. The vessel is of steel construction and her registered length is 53 feet. She is equipped with one radar, magnetic compass, two VHF radios and displays the appropriate lights and signals for a pilot vessel.

The master has local knowledge of the area and at the time of the incident he was awaiting a pilot to disembark from the southbound tanker "SOUTH ANGELA". He was very concerned about the position of the "FILIA STAR" in relation to Red Island Shoal and offered his advice to VTS but he did not accurately ascertain her position, nor did he have such a responsibility.

14. Qualifications and Experience

"FILIA STAR"

The master holds a Liberian Master Ocean Going, Any Gross Tonnage Licence issued October 7, 1983, to expire October 6, 1988. He is also the holder of a Greek Master Foreign Going Certificate issued July 8, 1983.

He joined the "FILIA STAR" on June 11, 1987, in Tampa, Florida, U.S.A., as chief mate and he was promoted to master on September 9, 1987. he sailed for one and one-half years as master on general cargo ships in 1974/75 and started his career at sea in 1965. The master, whose mother tongue is Greek, has a limited command of the English language and this was apparent during the radio communications with Placentia VTS.

The second mate holds a Liberian Second Mate Ocean Going of any Gross Tonnage Licence issued on December 18, 1987, to expire on December 18, 1992. He also holds a Greek Second Mate Foreign Going Certificate issued in August 1983. He has been sailing as a deck officer aboard various Greek ships since 1982.

Pilot Boat APA4

The operator holds a Canadian ON-1 Certificate issued in June 1983. He has been operating the pilot boat for about three months. He was a master on board supply boats for three years. He considers himself familiar with the Placentia Bay waterway.

Placentia Bay Traffic Centre

The traffic regulator has 10 years experience as a marine traffic regulator at Placentia Traffic Centre and holds a First Mate Home Trade Certificate issued on July 9, 1976. He has several years experience on board coastal ships.

Findings

On March 14, 1988, during fine weather conditions and under the Placentia Traffic Radar Surveillance System, while awaiting arrival of navigational charts and of the pilot to conduct the "FILIA STAR" into Come by Chance, Newfoundland, the vessel ran aground as a result of an error in judgement in the navigation of the vessel. It would appear that the following factors contributed to the grounding:

The Vessel

- did not have the appropriate largest scale charts or publications aboard for the area, thus a full appraisal of the navigational hazards could not be made;

- did not identify Red Island Shoal buoy as a lateral

while going with the main stream of flood tide;

- there was language difficulty in radio communication because of lack of command of English by the ship's crew using the VHF R/T, and

- the vessel was not stopped as advised by VTS but allowed to drift in a northerly direction on the flood tide.

The VTS System

- the VTS Regulator, although giving ample warning initially, ultimately advised a course of action based on advice from a third vessel without being certain of the "FILIA STAR'S" precise position in relation to the shoal; and

- the VTS radar target of the Red Island Shoal buoy, at a range of over 7 miles, did not paint because its echo and that of the vessel, appeared as one.

Other Findings

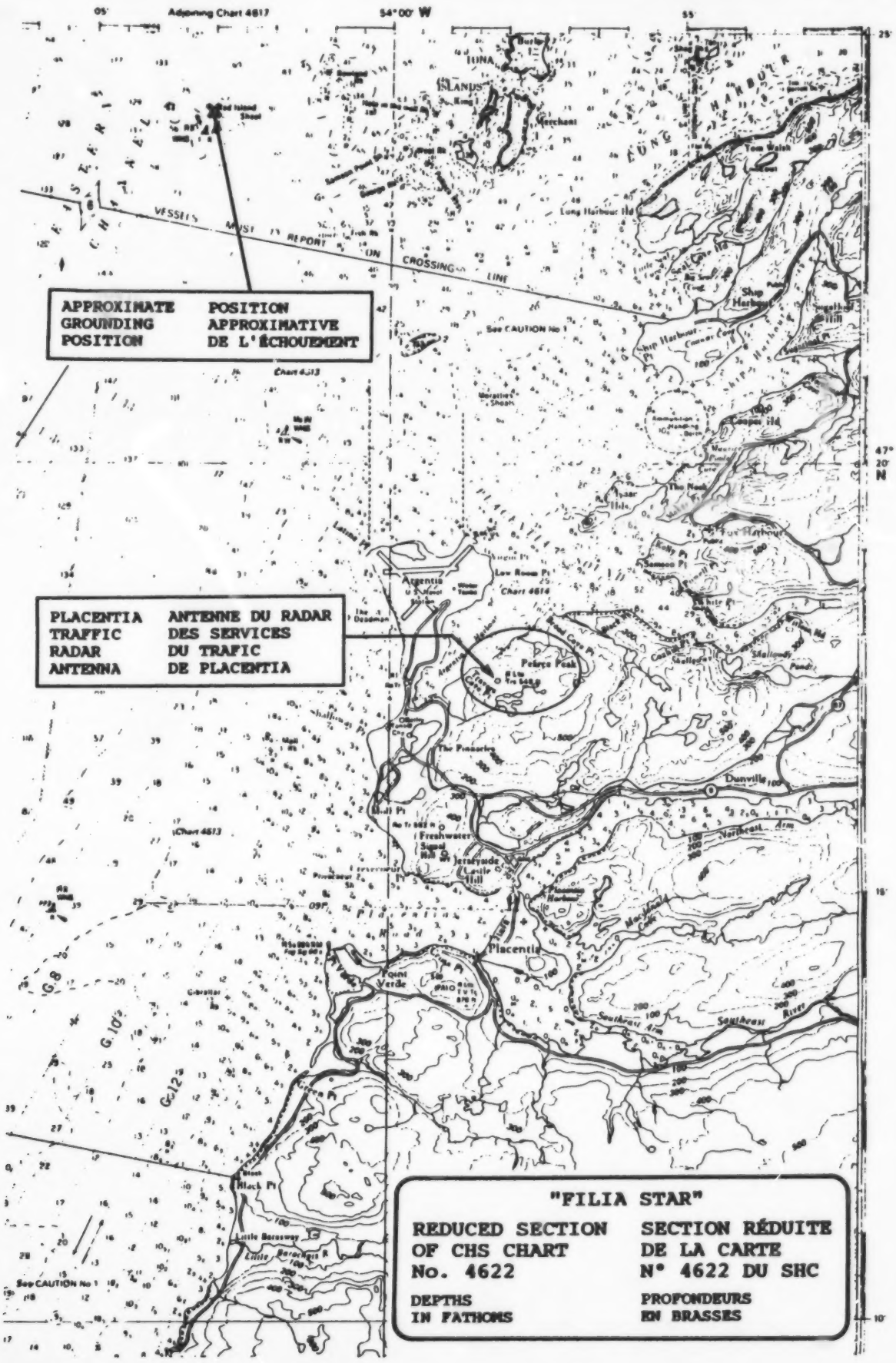
The ECAREG message from the vessel incorrectly advised that there were no deficiencies in the charts and publications carried aboard.

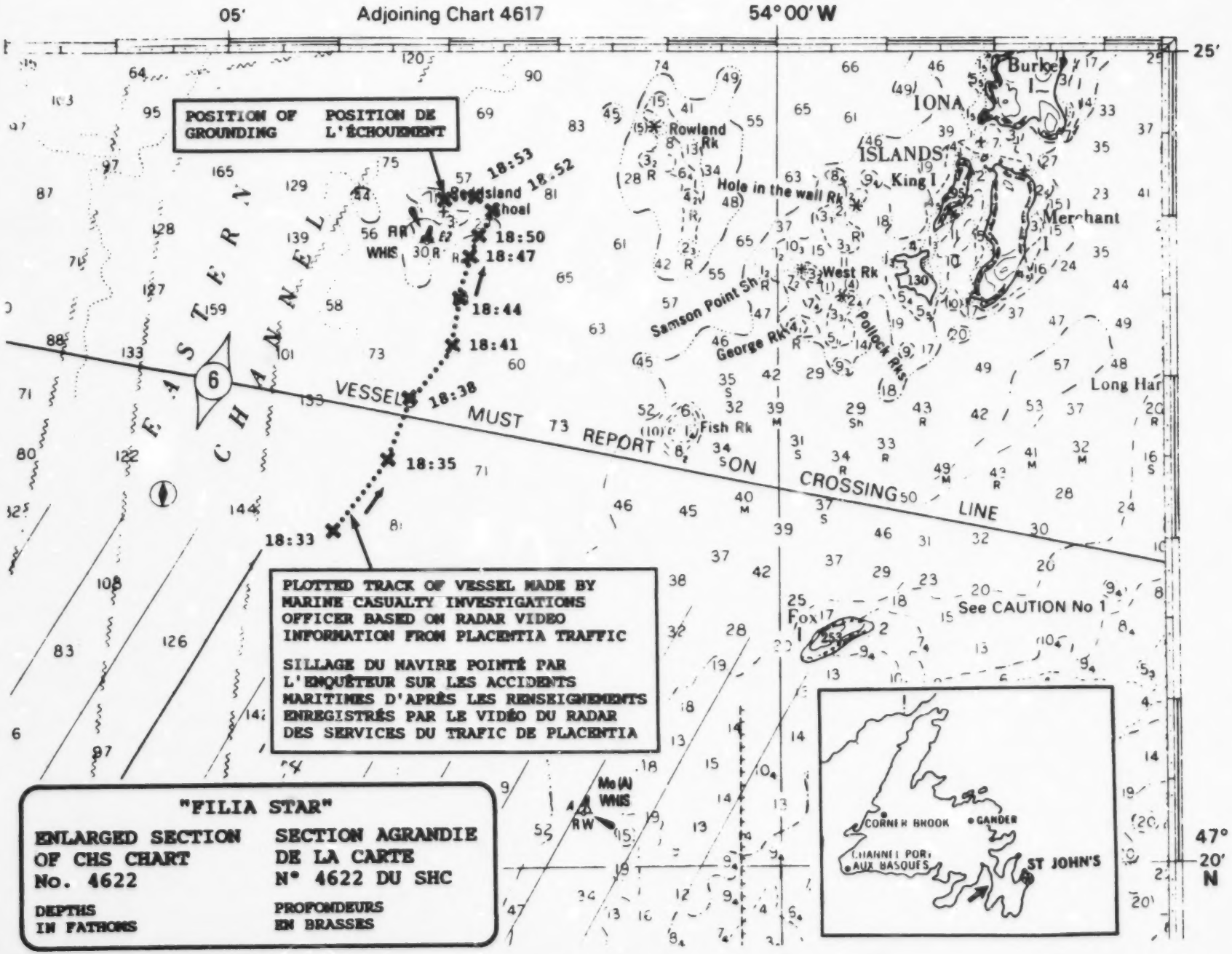
The vessel did not comply with the Canadian Charts and Publications Regulations nor with the Shipping Casualties Reporting Regulations.

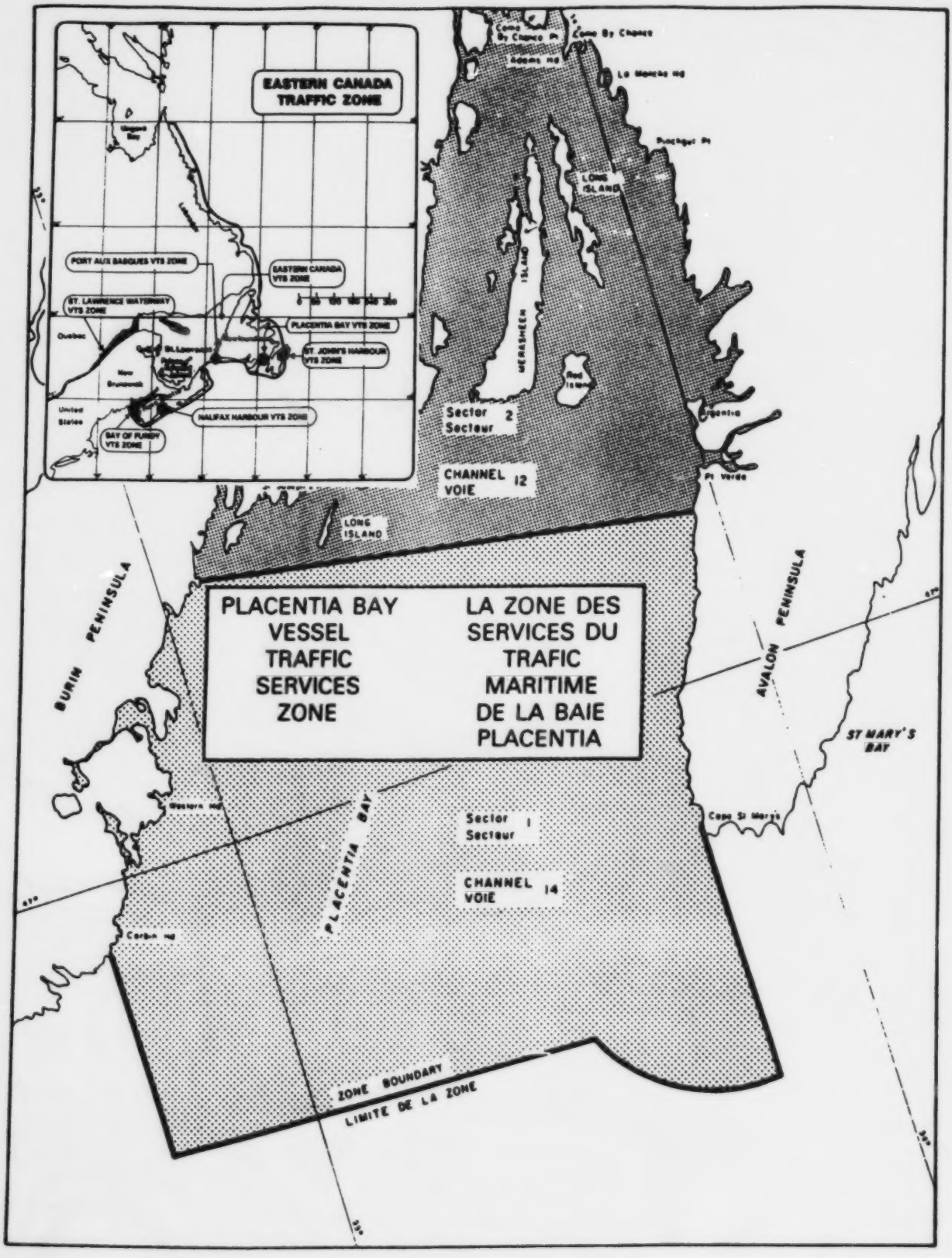
There was some discrepancy between various publications in the advertised position of the Placentia pilot stations.

MARINE CASUALTY INVESTIGATIONS
TRANSPORT CANADA
110 O'CONNOR STREET
OTTAWA, ONTARIO
K1A 0N5

MAY, 1989.


Adjoining Chart 4617
54° 00' W
LUNG HARBOUR
ISLANDS
VESSELS MUST REPORT ON CROSSING LINE
APPROXIMATE GROUNDING POSITION
POSITION APPROXIMATIVE DE L'ÉCHOUEMENT
PLACENTIA TRAFFIC RADAR ANTENNA
ANTENNE DU RADAR DES SERVICES DU TRAFIC DE PLACENTIA
Placentia
Dunville
Jerseyside
Freshwater
Northeast Arm
Southeast Arm
Argentia
Chart 4613
Chart 4614
Chart 4617
See CAUTION No 1
47° 20' N
"FILIA STAR"
REDUCED SECTION OF CHS CHART No. 4622
SECTION RÉDUITE DE LA CARTE N° 4622 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES


05'
Adjoining Chart 4617
54° 00' W
25'
POSITION OF GROUNDING
POSITION DE L'ÉCHOUEMENT
EASTERN CHANNEL
VESSEL MUST REPORT SON CROSSING LINE
18:53
18:52
18:50
18:47
18:44
18:41
18:38
18:35
18:33
Goldsland Shoal
Rowland Rk
Hole in the wall Rk
West Rk
Samson Point Sh
George Rk
Pollock Rks
Fish Rk
IONA ISLANDS
Burke I
King I
Merchant
Long Har
Fox I
See CAUTION No 1
Mo (A) WHIS
RW
PLOTTED TRACK OF VESSEL MADE BY MARINE CASUALTY INVESTIGATIONS OFFICER BASED ON RADAR VIDEO INFORMATION FROM PLACENTIA TRAFFIC
SILLAGE DU NAVIRE POINTÉ PAR L'ENQUÊTEUR SUR LES ACCIDENTS MARITIMES D'APRÈS LES RENSEIGNEMENTS ENREGISTRÉS PAR LE VIDÉO DU RADAR DES SERVICES DU TRAFIC DE PLACENTIA
"FILIA STAR"
ENLARGED SECTION OF CHS CHART No. 4622
SECTION AGRANDIE DE LA CARTE N° 4622 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES
CORNER BROOK
GANDER
CHANNEL PORT AUX BASQUES
ST JOHN'S
47° 20' N


EASTERN CANADA TRAFFIC ZONE
PORT AUX BASQUES VTS ZONE
EASTERN CANADA VTS ZONE
ST. LAWRENCE WATERWAY VTS ZONE
PLACENTIA BAY VTS ZONE
ST. JOHN'S HARBOUR VTS ZONE
HALIFAX HARBOUR VTS ZONE
BAY OF FUNDY VTS ZONE
LONG ISLAND
Sector 2
Secteur
CHANNEL 12
VOIE
PLACENTIA BAY VESSEL TRAFFIC SERVICES ZONE
LA ZONE DES SERVICES DU TRAFIC MARITIME DE LA BAIE PLACENTIA
BURIN PENINSULA
AVALON PENINSULA
ST MARY'S BAY
Sector 1
Secteur
CHANNEL 14
VOIE
PLACENTIA BAY
ZONE BOUNDARY
LIMITE DE LA ZONE

"FILIA STAR"

View of damage to bottom on port side.
Vue des avaries à la carène du côté bâbord.